



**Michael C. Schlachter, CFA**  
**Managing Director & Principal**

July 25, 2011

Dr. George Diehr  
Chair, Investment Committee  
California Public Employees' Retirement System  
400 P Street, Suite 3492  
Sacramento, CA 95814

**Re: Internal Passive Equity Portfolios Review**

Dear Dr. Diehr,

Wilshire has conducted a review of the Global Equity internal index team's personnel, investment process, and resources. This review was conducted as part of Wilshire's contractual requirement to periodically review all of the internal asset management functions, and included an on-site visit by me on July 6, 2011. Overall, we are pleased with the quality of the personnel, systems, and processes, and believe that the Investment Committee should continue to support this internal team.

The internal team currently manages several index portfolios benchmarked to a variety of indices. These portfolios include the PERS Custom 2500 index (a broad US portfolio), US microcap, US fundamental-based index, developed international equity, non-US fundamental-based index, REITs, and emerging markets. All are managed by the same group of Staff, supervised by Dan Bienvenue.

In the past, several of the index funds were managed with slightly wider risk controls than is typical for index funds, allowing Staff the opportunity to add small amounts of value through superior trade timing around corporate actions and through the use of quantitative or other models that rank stocks and industries based on a variety of factors. This effort was not as consistently successful as expected and, with one exception, these "quasi-index" funds are now managed as pure index funds, reducing the tracking error risk in the portfolios. The one fund still managed in a semi-active fashion is the S&P 500 portfolio, which has been very successful at adding value to date.

In our opinion, the termination of these attempts to outperform the benchmark is a demonstration of the commitment by Staff to reduce risk wherever possible and to recognize that time is best spent on other activities that add value or reduce risk to the total portfolio.

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## Review of Team

With more than \$100 billion in internally-managed index funds, CalPERS is one of the largest index managers in the world, surpassed by only a handful of money management organizations. Over the last several years, PERS has successfully constructed a team of seasoned professionals, mainly drawn from the former Barclays Global Investors and State Street Global Advisors, which is at least as experienced as any similar team at any external money manager. In fact, several members of this team were either portfolio managers or senior traders in BGI's and SSGA's index fund divisions before joining CalPERS. As assets have grown, the Global Equity SIO has been able to hire additional team members, and we believe that this team is sufficiently large and well-resourced to manage the assets with which it is charged.

In our opinion, the index team assembled at CalPERS should be able to handle any risk or complexity in the portfolio at least as well as any external manager CalPERS might consider instead of internal management.

As this team has grown, so has the number of portfolios under internal management. Originally, when Eric Baggesen and Dan Bienvenue were first hired to build out CalPERS' internal management capacity, there were approximately four internal index funds. Today, there are at least 16 passively-constructed funds, with a wide variety of target indexes. Three years ago, CalPERS was reaching the limit of how many funds can be managed internally given Staff and technology resources. We noted the lack of capacity and some technical issues to the Investment Committee and to the CIO at the time. Subsequent to that presentation, CalPERS has made a tremendous investment in technology and resources, alleviating many of the issues we observed and allowing for greater complexity of investment programs.

Two years ago, the team was restructured along functional lines. Previously, a single portfolio manager and a backup portfolio manager handled all aspects of a portfolio, from research through trading. Following the reorganization, Staff is now dedicated along three functional lines -- a "strategy team" that determines the desired weights in a portfolio, a "construction team" that converts the weights desired by the strategy team into actual desired positions and trade lists, and a "trading team" of three individuals that handles all transactions for all portfolios.

In our opinion, this new structure allows team members to specialize in various skill areas and will also provide some increase in capacity for the team as future strategies are added. With more than a year of actual experience under this new organizational system, it is apparent to us that the new structure allows for a much more streamlined workflow and has substantially increased Staff's management capacity.



In addition, as we note below, we have concluded that this new functional organization provides for a far more robust control environment than has previously existed at CalPERS.

## **Review of Portfolio Management and Trading Systems**

As the team has grown, technology resources have been added as well, including additional data vendors, order management systems, risk measurement platforms, and trade compliance tools. All of the internal portfolios are managed under a common platform, although some team members may have different tools they employ for determining and modeling prospective active weights, and any member of the team can step in for another as required.

In our 2008 and 2009 reviews, we noted a number of technological issues with CalPERS database systems and trading platforms. We are pleased to report that the extensive technology review undertaken by Information Technology Staff has substantially resolved these problems and greatly improved the quality and speed of data on the trading platform. While technology continues to evolve and there will always be a need to monitor the current state-of-the-art systems and make improvements, we no longer believe that CalPERS is at a competitive disadvantage due to technology concerns.

Another technological review is currently underway and the trading systems may be replaced wholesale at some point over the next year. This will have the effect of moving the entire internally managed set of portfolios (equity and fixed income) to a common vendor and will also replace a number of manual tasks with new tools.

## **Review of Compliance Process**

Portfolio management Staff clear all trades through a compliance software package, and we have tested this system during our past visits, asking a trader to execute some or all of the following trades:

- Buy stock in a tobacco company
- Buy a stock on the "Sudan list" or "Iran list"
- Buy the ADR version of a stock on the "Iran list"
- Buy 1 billion shares of IBM (testing for obvious errors in trade sizes)
- Buy a stock on the Insider Trading list
- Buy a non-dollar stock in a US portfolio
- Buy preferred stock
- Buy / sell stock options (to open positions)
- Sell a security short (or oversell a security)



We have reported over the last few years that all of the above transactions were blocked by the system or, as in the case of the “fat finger” large trade, were no longer possible due to the elimination of manual trade entry. For the traders, these blocks were absolute and required an override (if the trade was necessary) by the Compliance Department.

This year, we spent more time watching the order management system in action and did not feel the need to ask the team to manually enter test trades as we have concluded that the functional reorganization of the team presents a strong compliance process by its very nature.

Only three members of Staff are authorized to transmit trades to counterparties and all counterparties have been directed to only accept trade information from those people. This limits the number of people who have the ability to directly impact the portfolio.

Those three people also share a “trade blotter” (a listing of all trades in process or executed) which simultaneously shows the same transaction list on each person’s computer. Were a trader to manually enter an erroneous trade (manual trades are now rare, given the creation of trade lists by the “portfolio construction” team) which somehow bypassed the compliance controls programmed into the system, the other two people would see the trade and could cancel it or ask the erroneous party about it. If an individual began to “day trade” securities within the portfolio, the others would note the high volume of transactions on their own screens. While it is possible that an individual could enter and execute an erroneous or malicious trade while he is alone on the trading desk, the others would see the transaction upon their return and could enter an offsetting transaction fairly quickly.

While no system can completely prohibit an individual intent on malevolence from entering a few transactions, we are reasonably confident that the system in place will prevent unintentional or accidental compliance violations and would likely require significant collusion among a variety of members of Staff to execute a series of trades against CalPERS’ interest.

As discussed in an agenda item presented by Staff this spring, Staff has also been working with the consulting firm Mosaic in reviewing and optimizing its brokerage relationships. This project has enabled Staff to reduce the number of counterparties to a more manageable number of firms while reducing transactions costs. The end result of this is a more streamlined trading process at a lower cost – good goals for CalPERS to achieve.

## **Data Integrity**

Although we are reasonably confident that erroneous trades will be prevented by the combination of compliance software and peer observations, we do not discount the



possibility of erroneous transactions based on erroneous data. Given the well-documented issues with security-level data feeds from the custodian into CalPERS system, the largely manual portfolio construction process could create trade lists based on faulty information.

This issue is high on the COIO's priority list of projects and will be resolved through a continued shift from Excel-based manual calculations to new portfolio construction tools and through the potential shift to the aforementioned portfolio construction and order management system currently under consideration.

### **Conclusion**

In brief, we believe that Staff has demonstrated the ability to implement the passive equity portfolios and to add small amounts of value versus select index funds where appropriate. We are pleased with the experience of Staff and commitment by CalPERS to assess and improve the technology resources at their disposal. We did not discover any significant adverse issues during our review, and are confident that CalPERS has sufficient resources to manage these portfolios as authorized by the Investment Committee.

Sincerely,

Michael C. Schlachter, CFA  
Managing Director & Principal

## Strategy Evaluation: CalPERS Internal Equity Index Funds

### Organization (0-100)

#### SCORE:

Ownership/Incentives (0-30)  
Direct Ownership/Phantom Stock  
Profit Sharing  
Performance Bonus  
Depth of Incentives

Score: 5

Team (0-25)  
Communication  
Role of Manager, Research, and Operations  
Longevity of Team

Score: 22

Quality of Key Professionals (0-15)  
Experience  
Quality of Leadership  
Quality of Education

Score: 15

Turnover of Senior Professionals (0-15)  
Low (<10%), Medium (<20%), High (>20%)

Score: **4 (Increased from 0 given the stability of the team managing the trading desk)**

#### COMMENTS:

Employees receive performance bonus only.

Furloughs, pay cuts, and the potential reduction in performance compensation have had a negative impact on morale and may lead to employee turnover.

There are several portfolio managers/traders with different areas of primary responsibility, but all can exchange/cover other portfolios on a common platform. Team has been constructed over the last few years, but has excellent chemistry and appears to work together well.

Education and technical skill set of portfolio managers/traders and SIO-Global Equities are exceptionally good, by any standard. The portfolio managers/traders all have substantial experience with CalPERS or in similar capacities at external money managers. Leadership skill of SPM-Global Equities-Internal Assets is very good and his experience level is outstanding. Understands risks and issues to be monitored or resolved regarding strategy. Appropriately concerned about process, reporting, and monitoring.

Staff turnover for CalPERS is high at both the senior and junior levels, including the departure of the previous SIO for Global Equities, the SIO for AIM, two CIOs, and the CEO over the last few years. Lack of long-term retention incentives lead some staff to consider the organization as a "stepping stone" to better compensation in similar positions elsewhere. Although turnover can be an organizational risk, it should not have a significant impact due to the passive (indexed) nature of these portfolios.



Commitment to Improvement (0-15)

Clear Mission  
Re-investment  
Process Enhance

Strategy has clear mission and objectives. Resources are sufficient to the current tasks assigned to team, and support exists within the organization to add staff or other resources if strategy expands or other demands warrant.

Score: 15

**Philosophy/Process (0-100)**

SCORE:

COMMENTS:

Market Anomaly/Inefficiency (0-40)

Permanent or Temporary  
Clear Identification  
Where and How Add Value  
Empirical or Academic Evidence to

These are passive portfolios that seek to track the index performance, and will not seek to add more than slight value.

Support

Score: 40

Information (0-15)

Unique Sources, Unique Processing

Highest score given as these are generally passive portfolios that have met or exceeded their mandates. Future internally-managed active strategies that seek to exploit inefficiencies or information advantage may receive a different score.

Score: 15

Buy/Sell Discipline (0-15)

Disciplined/Structured Process  
Quantitative and Qualitative Inputs

Highest score given as these are generally passive portfolios that have met or exceeded their mandates. Future internally-managed active strategies that seek to exploit inefficiencies or information advantage may receive a different score.

Score: 15

Portfolio Construction (0-15)

Benchmark Orientation  
Risk Controls  
Ongoing Monitoring

Highest score given as these are generally passive portfolios that have met or exceeded their mandates. Future internally-managed active strategies that seek to exploit inefficiencies or information advantage may receive a different score.

Score: 15

Quality Control (0-15)

Return Dispersion  
Performance Attribution  
Performance Consistency  
Style Drift

Tracking error on all portfolios is reviewed monthly, and leeway is given to Staff to add modest amounts of value only if clear skill is demonstrated. Portfolios managed as pure index funds have had almost no tracking error.

Score: 15





## **Resources (0-100)**

### **SCORE:**

#### **Research (Alpha Generation) (0-40)**

Appropriate for Product Style  
Conducted Internally/Externally  
Quantitative/Qualitative  
Sufficient Databases and Models for

#### **Research**

How are Research Capabilities  
Enhanced

Score: 40

#### **Information/Systems Management (0-15)**

Ability to Manage Large Flows of Data  
Appropriate Systems for Research and  
Management

Score: **13 (increased from 12 due to  
continued evolution of systems.)**

#### **Marketing/Administration/Client Service (0-15)**

Dedicated and Knowledgeable Group  
Quality of Materials/Presentations of  
RFPs  
Responsiveness  
Measuring Client Satisfaction

Score: 14

#### **Trading (0-30)**

Turnover Relative to Process  
Sophistication of Trading Process  
Measurement of Trading Costs  
Soft Dollars in Client Interest

Score: 25

### **COMMENTS:**

These are passive portfolios, and Staff receives all data feeds that are required to maintain them in line with published indices. Small amounts of value may be added through the utilization of additional quantitative information from several investment banks.

The organization has recognized the importance of data integrity and has changed the relationship with the custodian to improve data. In addition, improvements to the portfolio construction and trading systems have been made, with more under consideration.

Since marketing and client service are not involved, unlike external sources for such a strategy, full resources of portfolio managers will be devoted to CalPERS, as the portfolio managers will not have to travel to service other clients or market to prospects. End client (Investment Committee) has regular meetings that usually require SIO and some Senior Portfolio Managers, but team is able to continue to operate in their absence.

CalPERS' trading room is very sophisticated, was constructed in the last few years, and has subscriptions to all of the most popular trading data resources, i.e. Bloomberg, Instinet, ITG, WM, etc. Part of the underpinning of the value-added strategies lies in the trading, and there have been no significant trading issues that should impact the execution of the strategy. There is sufficient back-up and separation of responsibilities in the trading function. Staff uses at least two systems for monitoring transactions costs, and scores well under both systems. CalPERS does not use soft dollars.





## Discussion

Wilshire's score on this strategy of 84% or 253 out of 300 possible points reflects the strong team and clear success demonstrated at managing the portfolio as charged. The main reasons for a less-than-perfect score overall are largely due to organizational-level issues such as senior management turnover and lack of retention incentives. The slight improvement from the 2010 score of 248 points (83%) and the 2009 score of 244 points (81%) is due to the observed benefits of the functional reorganization of the team which should allow for greater capacity, the longevity of the team managing the trading desk, and an improvement in technology resources.